REMARKS

In the aforesaid Office Action, claims 1-5, 9, 16, 25, 27-33 and 37-40 were rejected under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Estrada et al. (U.S. Patent No. 6,193,686), and claims 1-5, 9, 16, 25, 27-33 and 37-40 were rejected under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Happ et al. (U.S. Patent No. 6,575,958), and claims 1-5, 9, 23-33, 35, and 37-39 were rejected under 35 USC §103(a) as being unpatentable over Verbeek (U.S. Patent No. 5,690,613) in view of Rau et al. (U.S. Patent No. 6,024,722) and in view of Wallace et al. (U.S. Patent No. 6,495,127). Applicants note with appreciation the indication that claims 17-19 and 21 would be allowable if rewritten in independent form including all the limitations of the base and any intervening claims, and that claim 41 is allowed. Claims 1-42 are pending (new claim 42 being added by this amendment), and claims 6-8, 10-15, 20, 22, 34 and 36 are withdrawn from consideration.

The Examiner rejected claims 1-5, 9, 16, 25, 27-33 and 37-40 under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Estrada et al., stating that Estrada et al. discloses a balloon catheter shaft having.... "a reinforcing member (20) formed of a first polymeric material (braided polyamide) having a glass transition temperature greater than the glass transition temperature of a second polymeric material (nylon 12) forming the distal portion of the proximal tubular member.

However, in Estrada et al., member 20 does not having a tubular structure which extends within a distal portion of the proximal tubular member (the distal portion of the proximal tubular member being a portion which is in a side-by-side relationship with a proximal portion of the distal inner tubular member), as required by the embodiment set forth in Applicants' claims 1 and 30. Instead, in Estrada et al., member 20 has a distal end which is located proximal to the actual portion of the proximal tubular member which extends in a side-by-side relationship to the inner tubular member 34. As discussed in Applicants' specification at page 7, lines 4-14, and page 8, lines 8-11, the reinforcing member of the invention provides for reinforcement of the rapid exchange junction of the shaft at the guidewire proximal port 29, i.e., where a proximal portion of the distal inner tubular member 27 extends in a side-by-side relationship with a distal portion of the proximal tubular member 22 (the proximal tubular member 22 defining a proximal portion of the inflation lumen). Such a configuration is not disclosed or suggested by Estrada et al.

The Examiner rejected claims 1-5, 9, 16, 25, 27-33 and 37-40 under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Happ et al., stating that Happ et al. discloses a balloon catheter shaft having.... "a reinforcing member (94) formed of a first polymeric material (braided polyamide) having a glass transition temperature greater than the glass transition temperature of a second polymeric material (nylon 12) forming the distal portion of the proximal inner tubular member. However, similar to Estrada et al. discussed above, in Happ et al., member 94 does not have a tubular structure which extends within a distal portion of the proximal

tubular member. In the embodiment of Fig. 1 of Happ et al., similar to Estrada et al., no portion of the member 94 is located within the distal portion of the proximal tubular member (the distal portion of the proximal tubular member being a portion which is in a side-by-side relationship with a proximal portion of the distal inner tubular member). In the embodiment of Fig. 9 of Happ et al., although the tapered distal tip 115 of the member 94 extends further distally than in Fig. 1, the tapered distal tip 115 is not tubular (as best illustrated in Figs. 10 and 11) as required by Applicants' claims 1 and 30 (which call for a tubular reinforcing member and a reinforcing tube, respectively).

The Examiner rejected claims 1-5, 9, 23-33, 35, and 37-39 under 35 USC §103(a) as being unpatentable over Verbeek in view of Rau et al. and in view of Wallace et al., stating that although Verbeek does not disclose that the polymeric reinforcing member (13, 17) is formed from a thermoset or thermoplastic polyimide and that the second polymeric material is formed from a nylon, polyether block amide, polyurethane or adhesive polymer and that the first polymeric material has a higher glass transition temperature than the second polymeric material, Rau et al. discloses the use of thermoplastic and thermoset polyimide in balloon catheters because of the high strength and flexibility, and Wallace et al. discloses the specific teaching of how using different glass transition temperatures for different polymers will result in the formation of a reinforcing structure.

However, Wallace discloses using a higher Tg polymer to reinforce the cohesive strength of a gel, and does not disclose or suggest using the higher Tg polymer to form a reinforcing structure. Specifically, Wallace et al. discloses that using a higher glass

transition temperature polymer provides a more robust gel, so that the gel is able to hold fibrous fillers. Wallace teaches that when forming an interpenetrating polymer network (IPN) between a low glass transition temperature polymer (PEG) and a high glass transition polymer, the result is this reinforcement of the former by the latter. However, reinforcing a gel to enable the gel to hold onto fibrous fillers so that the fibrous fillers do not pull out of the gel under tensile loads in no way discloses or suggests that the higher glass transition temperature polymer itself forms a reinforcing structure. That is, although the cohesive strength of the low Tg polymer gel is increased by the formation of an IPN with the relatively high Tg polymer, the ability of the resulting gel to form a reinforcing tubular member is not disclosed or suggested in Wallace et al. Although Wallace does disclose that at the temperatures of interest the second polymer must be more rigid than the first polymer for the second polymer to reinforce the resulting IPN gel, the effect of Tg on cohesive strengths of IPN gels provides no teaching or suggestion of the desirability of a higher Tg polymer to form a reinforcing tubular member to reinforce another tubular member formed of a lower Tg.

Similarly, the disclosure in Rau et al. of the use of thermoset and thermoplastic polyimides in balloon catheters provides no motivation to form the reinforcing member 13, 17 of Verbeek from a polymer having a higher Tg than the polymer forming the distal portion of the proximal tubular member 50. Thus, when combined with Verbeek in view of Rau et al., the teaching in Wallace et al. relating to reinforcing a gel provides no teaching or suggestion to select a polymer for the reinforcing member 13, 17 which has a higher Tg than the polymer forming the distal portion of the proximal tubular member 50.

In light of the above amendments and remarks, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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